

07-19-05

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ATTORNEY DOCKET NO. JPA-1
EXPRESS MAIL LABEL NO. EV710696797US

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Inventor:	Jon D. Pearson	
Serial No:	10/775,634	Group Art Unit: 1328
Filing Date:	02/10/2004	Examiner: Tara L. Mayo
Title:	INFLATABLE DEVICE FOR ADJUSTING THE SUPPORT AND COMFORT OF A MATTRESS	BRIEF ON APPEAL

MAIL STOP APPEAL BRIEF - PATENTS
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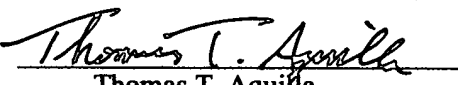
BRIEF ON APPEAL

This Brief supports the appeal to the Board of Patent Appeals and Interferences from the Final Rejection dated May 18, 2005, in the above-captioned application. Appellant filed a Notice of Appeal on June 20, 2005, and now submits this Brief in compliance with 37 C.F.R. § 1.192.

Pursuant to 37 C.F.R. § 1.192, the two-month period for filing an Appeal Brief tolls from the date of filing the Notice of Appeal, *i.e.*, June 20, 2005. This Appeal Brief is timely filed within the two-month period, which extends until August 20, 2005.

1. REAL PARTY IN INTEREST

The real party in interest is Jon D. Pearson, an individual, and the sole inventor of the invention disclosed in the present application (Ser. No. 10/775,634).

CERTIFICATE OF MAILING
I hereby certify that this correspondence is being deposited in the U.S. Postal Service as Express Mail No. EV710696797US in an envelope addressed to Mail Stop Appeal Brief - Patents, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on July 18, 2005.
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2. **RELATED APPEALS AND INTERFERENCES**

There are no other appeals or interferences known to Appellant or Appellant's legal representative, which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

3. **STATUS OF CLAIMS**

Claims 1-18 are pending in the application; claims 1-18 stand finally rejected.

The pending claims that are the subject of this Appeal are set forth in the attached Claims Appendix.

4. **STATUS OF AMENDMENTS**

No amendments were filed after the Final Rejection.

5. **SUMMARY OF CLAIMED SUBJECT MATTER**

The present invention provides a convex-shaped, inflatable mattress support (see Fig. 1), having a structural design to help form and maintain the convex shape. Specification at page 5, lines 25-26. Examples of suitable structural elements are shown in Figs. 4A-4C and Figs. 5A-5C and include, for example, reinforcing members and baffles, or a plurality of hollow chambers. Without such structure, an inflatable mattress support of this size would squish and bulge, making the support unstable and ineffective (see Figs. 3A and 3B). Specification at page 6, lines 8-9.

The invention is suitable for adjusting the firmness and support of the entire sleeping area of a mattress, not merely a specific region of the mattress corresponding to a portion of the body, such as the head or spine. Specification at page 5, line 25 to page 6, line 2. In the preferred embodiment, one key feature is that the mattress support should cover most of the surface of a standard twin or single bed (*e.g.*, not just the center). Specification at page 7, lines 14-16.

Figure 1 of Appellant's application shows the basic convex shape of the mattress support of the present invention (from the side), wherein the diameter in the center 1 is the thickest. Closer to the edges 2 the device gets thinner, and at the edges 3 the device is thinnest.

6. GROUND OF REJECTION TO BE REVIEWED ON APPEAL

1. Claims 1-3, 7-9 and 13-18 stand finally rejected under 35 U.S.C. 102(e) as being anticipated by Gordon (U.S. Pat. No. 6,665,898).

2. Claims 4-5 and 10-11 stand finally rejected under 35 U.S.C. 103(a) as being unpatentable over Gordon (U.S. Pat. No. 6,665,898) in view of Reeder *et al.* (U.S. Pat. No. 6,460,209).

3. Claims 6 and 12 stand finally rejected under 35 U.S.C. 103(a) as being unpatentable over Gordon (U.S. Pat. No. 6,665,898) in view of Pepe (U.S. Pat. No. 5,787,531).

7. ARGUMENTS

(7.1)

**Gordon Does Not Disclose Each And Every Element of
Appellant's Independent Claims 1, 7 or 13**

Claims 1-3, 7-9 and 13-18 stand finally rejected under 35 U.S.C. 102(b) as being anticipated by Gordon (U.S. Pat. No. 6,665,898). Appellant respectfully requests that this Board reverse the rejection.

Essentially, the Examiner maintains that the invention of claims 1, 7 and 13 is identical to the apparatus disclosed by Gordon, and to the extent that the apparatus is not identical, Appellant has not recited any distinguishing feature in the claims. Appellant respectfully disagrees with the Examiner, and respectfully points out the errors in the rejection and the reasons why the rejected claims are patentable over the prior art.

Appellant's independent claims 1 and 7 recite an apparatus providing adjustability of firmness, support, or sag to a mattress, comprising at least:

- a) a substantially convex cross-sectional shape that is thicker in the center region and gradually thinner toward the edges;
- b) a material and constitution for maintaining the convex shape under the weight of the mattress and a person; and

- c) a set of dimensions large enough to adjust firmness, support, or sag for the majority of an area of the mattress used by the person.

Appellant's independent claim 13 recites a method for adjusting the firmness, support, or sag of a mattress, comprising the steps of:

- a) providing an inflatable apparatus and inflating it so that it attains a substantially convex shape;
- b) inflating the apparatus to a desired degree for a desired level of firmness, support, or sag to the mattress;
- c) placing the apparatus under the mattress; and
- d) positioning the apparatus so that it supports the majority of an area of the mattress used by a person.

With regard to claim 13, the Examiner maintains that the method steps recited therein are inherent to the use of the device shown by Gordon.

If the Examiner relies upon the theory of inherency, then the Examiner must provide a basis in fact and/or technical reasoning to reasonably support the determination that the allegedly inherent characteristic necessarily flows from the teachings of the applied prior art. Ex parte Levy, 17 USPQ2d 1461, 1464 (Bd. Pat. App. & Inter. 1990). The fact that a certain result or characteristic may occur or be present in the prior art is not sufficient to establish the inherency of that result or characteristic. In re Rijckaert, 9 F.3d 1531, 1534, 28 USPQ2d 1955, 1957 (Fed. Cir. 1993); In re Oelrich, 666 F.2d 578, 581-82, 212 USPQ 323, 326 (CCPA 1981). It is noted that the Examiner has not provided any reasonable basis in fact and/or technical reasoning to support a rejection for anticipation by inherency.

As a preliminary matter, it is noted that certain features must be present in order for the mattress support to function properly and to constitute what Appellant regards as the invention. The mattress support at least must have a substantially convex cross-sectional shape overall and maintain the convex cross-sectional shape under the weight of

the mattress and a person, and the apparatus must also support the majority of an area of the mattress used by the person, in order for the apparatus to fall within the scope of Appellant's claims.

(7.1.1)

**The Apparatus of Gordon Does Not Have a
Substantially Convex Cross-Sectional Shape**

In order to avoid rejection for anticipation, it is only necessary to show that a claim contains at least one element not disclosed in a single prior art reference. Unless all of the same elements are found in exactly the same situation and united in the same way to perform the identical function in prior pleaded art, there is no anticipation. Verdegaal Bros., Inc. v. Union Oil Co., 814 F.2d 628 (Fed. Cir. 1987). Therefore, even if a claim recites numerous elements that are present in a single prior art reference, a claim cannot be rejected for anticipation over a single prior art reference that does not disclose each and every element of the claim.

Appellant's claims 1 and 7 recite an apparatus providing adjustability of firmness, support, or sag to a mattress, said apparatus having a substantially convex cross-sectional shape that is thicker in the center region and gradually thinner toward the edges.

Gordon does not disclose an apparatus having a substantially convex cross-sectional shape that is thicker in the center region and gradually thinner toward the edges. Indeed, Appellant has previously shown that the apparatus of Gordon does not have a substantially convex cross-sectional shape that is thicker in the center region and gradually thinner toward the edges. See Declaration of Jon D. Pearson under 37 C.F.R. § 1.132 (already of record in the application), particularly at paragraphs 8-16.

The Examiner has not provided any substantial evidence to refute the declaration testimony and test data therein. Rather, in response to Appellant's evidence showing that Gordon fails to disclose an apparatus having a substantially convex cross sectional shape that is thicker in the center region and gradually thinner toward the edges, as required by independent claims 1 and 7 of the instant application, the Examiner merely directs Appellant's attention to the recitation of "convex lobes" in claims 5, 7 and 14 of the reference. See Final Office Action at page 10, paragraph 4.

It is respectfully submitted that the "convex lobes" recited in the reference clearly refer only to the individual "lobes" within a multi-chambered embodiment of Gordon's device. However, the convex shape recited in Appellant's claims refers to the overall shape of the device itself. See, *e.g.*, specification at page 3, lines 4-6 (and Fig. 1). Figure 1 of Appellant's application shows the basic convex shape of the preferred embodiment, wherein the diameter in the center 1 is the thickest. Closer to the edges 2 the device gets thinner, and at the edges 3 the device is thinnest. Appellant's independent claims 1 and 7, therefore, require the apparatus itself to have a **substantially convex cross-sectional** shape that is thicker in the center region and **gradually thinner** toward the edges, which the apparatus of Gordon clearly lacks.

Furthermore, the Declarant has previously testified that, although at first glance, Figure 3B of Gordon may appear to show a 2-dimensional ellipse (which could suggest a convex shape), there is no structure disclosed in Gordon that would actually produce or maintain a convex (or 2-dimensional elliptical) shape, as depicted in Gordon's Fig. 3B. Based on actual laboratory testing, Appellant has shown that the apparatus of Gordon does not have a **substantially convex cross-sectional** shape that is thicker in the center region and **gradually thinner** toward the edges. See Declaration of Jon D. Pearson, paragraphs 11-16. Thus, the Examiner's assumptions are not borne out in fact.

In addition to the Declaration of Jon D. Pearson already of record, attached hereto is the Supplemental Declaration of Jon D. Pearson under 37 C.F.R. § 1.132, including additional test data based on continuing product development and testing, including actual laboratory tests of Gordon's patented apparatus. These laboratory data are provided in direct response to the Examiner's assertions in the Final Rejection, and show that the apparatus of Gordon does not have a **substantially convex cross-sectional** shape that is thicker in the center region and **gradually thinner** toward the edges. It is therefore respectfully submitted that the Supplemental Declaration is sufficient on its face to overcome the final rejection.

Therefore, Appellant has shown that the apparatus of Gordon clearly lacks any structure that would provide the substantially convex cross-sectional shape of Appellant's independent claims 1, 7 and 13, and thus Gordon does not disclose each and every limitation of the claims. This fact alone should be sufficient to overcome the final rejection for anticipation.

(7.1.2)

**The Apparatus of Gordon Does Not Have a Material
and Constitution for Maintaining the Convex Shape
Under the Weight of the Mattress and a Person**

Appellant's claims 1 and 7 recite an apparatus providing adjustability of firmness, support, or sag to a mattress, said apparatus having a substantially convex cross-sectional shape, and a material and constitution for maintaining the convex shape under the weight of the mattress and a person.

Gordon does not disclose an apparatus having a material and constitution for maintaining the convex shape under the weight of the mattress and a person. Indeed, Appellant has previously shown that the apparatus of Gordon does not have a material and constitution for maintaining the convex shape, particularly under the weight of the mattress and a person. See the Declaration of Jon D. Pearson under 37 C.F.R. § 1.132, particularly at paragraphs 8-16.

The Examiner has not provided any substantial evidence to refute the declaration testimony and test data therein. Rather, in response to Appellant's evidence showing that Gordon fails to disclose an apparatus having a material and constitution for maintaining the convex shape under the weight of the mattress and a person, as required by independent claims 1 and 7 of the instant application, the Examiner merely states:

"the Examiner contends the material forming the chamber inflatable with air meets the claimed functional limitation. As seen in Figure 3B and disclosed in column 2 at lines 38 through 44 and column 3 at lines 3 through 6, the mattress maintains its shape under the weight of a mattress. Furthermore, the apparatus shown by Gordon '898 is capable of being inflated to a degree that it will maintain its shape under the additional weight of a person."

Final Office Action at page 10, last paragraph bridging page 10 and 11.

It is noted that the Examiner has not provided any evidence whatsoever that contradicts or disproves the results of Appellant's laboratory experiments. Thus, the final rejection is not supported by substantial evidence. It is hereby noted that the Examiner is

required to support the rejection with actual evidence, as opposed to mere conclusory statements. See, *e.g.*, In re Zurko, 142 F.3d 1447, 46 USPQ2d 1691 (Fed. Cir., 1998).

Appellant respectfully disagrees with the Examiner's assertions; based on the evidence of record, the cited prior art does not meet the claimed functional limitations. As noted above, the Declarant has previously testified that, although at first glance, Figure 3B of Gordon may appear to show a 2-dimensional ellipse (which could suggest a convex shape), there is no structure disclosed in Gordon that would actually produce or maintain this shape. Furthermore, based on actual laboratory testing, Appellant has shown that the apparatus of Gordon does not **maintain a convex shape, especially under the weight of the mattress and a person**. See Declaration of Jon D. Pearson and Supplemental Declaration of Jon D. Pearson. Thus, the Examiner's assumptions are not borne out in fact.

Based on actual laboratory testing, if the apparatus of Gordon is fully inflated (*i.e.*, "to a degree that it will maintain its shape under the additional weight of a person"), the resulting shape is a rounded shape (*i.e.*, substantially spherical), not a convex shape. See Supplemental Declaration of Jon D. Pearson. Thus, although the prior art apparatus can be made to maintain its shape, it can only do so when fully inflated, and the shape of the fully-inflated apparatus of Gordon is rounded, not convex as recited in Appellant's claims.

Appellant's tests further show that, when not fully inflated, and even if under-inflated, the apparatus of Gordon still does not provide the claimed convex shape. See Supplemental Declaration of Jon D. Pearson and Exhibits attached thereto. When inflated according to the instructions provided with the device, even with no additional load other than the mattress itself, the cross-section of the apparatus of Gordon actually takes on the shape of an oval having parallel sides, not a convex shape. Furthermore, as soon as additional weight (*e.g.*, a person) is applied, the device becomes unstable. *Id.* This fact is further exemplified by actual customer comments published by the Home Shopping Network (www.HSN.com), where a customer writes: "I could feel it under my mattress felt like I was on a rubber doughnut." *Id.*

Thus, while the Examiner asserts that "the apparatus shown by Gordon '898 is capable of being inflated to a degree that it will maintain its shape under the additional

weight of a person." in fact, even if fully inflated (contrary to the instructions), the apparatus of Gordon cannot maintain a tapered convex shape as depicted in Gordon's Figure 3B. Indeed, Appellant has provided laboratory data that directly disprove the Examiner's assertions in the Final Rejection, showing that the apparatus of Gordon does not have a material and constitution for **maintaining the convex shape under the weight of the mattress and a person.**

Therefore, Appellant has shown that the apparatus of Gordon does not, in fact, maintain the substantially convex cross-sectional shape of Appellant's claims, and thus, Gordon does not disclose each and every limitation of the claims.

(7.1.3)

**The Apparatus of Gordon Does Not Have a Set of
Dimensions Large Enough to Adjust Firmness,
Support, or Sag for the Majority of an Area of the
Mattress Used by the Person**

Appellant's claims 1 and 7 recite an apparatus providing adjustability of firmness, support, or sag to a mattress, said apparatus having a set of dimensions large enough to adjust firmness, support, or sag for the majority of an area of the mattress used by the person.

Gordon does not disclose an apparatus having a set of dimensions large enough to adjust firmness, support, or sag for the majority of an area of the mattress used by the person. Indeed, Appellant has previously shown that the apparatus of Gordon does not have a set of dimensions large enough to adjust firmness, support, or sag for the majority of an area of the mattress used by the person. See Declaration of Jon D. Pearson under 37 C.F.R. § 1.132, particularly at paragraphs 8-16.

It is noted that the Examiner has not provided any evidence whatsoever that contradicts or disproves the results of Appellant's laboratory experiments. Thus, the final rejection is not supported by substantial evidence. Rather, in response to Appellant's evidence showing that the apparatus of Gordon does not have a set of dimensions large enough to adjust firmness, support, or sag for the majority of an area of the mattress used by the person, as required by independent claims 1 and 7 of the instant application, the Examiner asserts that:

"Gordon '898 expressly teaches use of the prior art device for correcting sag where the greatest portion of a sleeper's weight is located (col 2 lines 38 through 44). As each of independent claims 1 and 7 recite "a set of dimensions large enough to adjust firmness, support, or sag for the majority of an area of the mattress used by the person", the claimed limitation is met by the prior art device whereby the broadest reasonable interpretation of "the majority of an area of the mattress used by the person" corresponds to the center region of the mattress as taught by Gordon '898."

Final Office Action at page 11, first paragraph.

Appellant respectfully disagrees with the Examiner's assertions. It is respectfully submitted that the center region of the mattress where the greatest portion of a sleeper's weight is located, as disclosed by Gordon, quite clearly does not correspond to the majority of an area of the mattress used by the person, as recited in Appellant's claims. Indeed, Appellant's claims recite minimal dimensions that are larger than the area provided by the prior art apparatus. Appellant's specification further clarifies that the apparatus of the invention should cover most of the surface of a standard twin or single bed (e.g., not just the center). See specification at page 7, lines 14-16. Since Appellant's invention fits a single bed, two mattress supports would be used on a king sized bed, and because of the overall convex shape of the device, two overlapping mattress supports would be used on a queen or full size bed, thus allowing the single shape and design to be used for any size mattress. See Supplemental Declaration of Jon D. Pearson.

The smaller device of Gordon, which is limited to the center region of the mattress, thus does not have "a set of dimensions large enough to adjust firmness, support, or sag for the majority of an area of the mattress used by the person". Indeed, Gordon's apparatus does not fall within the scope of the claims, because the apparatus disclosed by Gordon is not large enough to support the majority of an area of the mattress used by the person. *Id.*

Therefore, Appellant has shown that the apparatus of Gordon does not have a set of dimensions large enough to adjust firmness, support, or sag for the majority of an area

of the mattress used by the person, and thus Gordon does not disclose each and every limitation of the claims.

(7.1.4)

**Appellant Has Shown by Actual Product Testing that
the Apparatus of Gordon Does Not Meet the
Limitations of Appellant's Claims 1 or 7**

The Examiner has not provided any substantial evidence to refute the declaration testimony and test data therein. Therefore, the final rejection is not supported by substantial evidence. Appellant, on the other hand, has provided ample evidence showing that the apparatus of the prior art cited by the Examiner lacks multiple features of Appellant's independent claims, and thus the claims are distinguished over the prior art. Moreover, Appellant has performed various laboratory tests, including actual laboratory tests of Gordon's patented apparatus, which clearly demonstrate that the apparatus of Gordon does not meet the limitations of Appellant's independent claims.

For the foregoing reasons, Appellant respectfully requests that this Board reverse the rejection of claims 1-3, 7-9 and 13-18 under 35 USC § 102(e) as being anticipated by Gordon.

(7.2)

**The Combination of Gordon and Reeder Does Not
Teach or Suggest Each And Every Element of
Appellant's Independent Claims 1 or 7**

Claims 4-5 and 10-11 stand finally rejected under 35 U.S.C. 103(a) as being unpatentable over Gordon (U.S. Pat. No. 6,665,898) in view of Reeder *et al.* (U.S. Pat. No. 6,460,209). Appellant respectfully requests that this Board reverse the rejection.

More particularly, the Examiner maintains that Gordon discloses all of the features of the claimed invention, with the exception of baffles and a plurality of hollow chambers, wherein shorter hollow chambers are located towards the edges and longer hollow chambers are located in the center areas.

Appellant respectfully disagrees, and maintains that the claims are patentable over Gordon and Reeder *et al.*, individually and in combination, for the reasons given above

with respect to the section 102 rejection of claims 1-3 and 7-9, from which claims 4-5 and 10-11 depend. The arguments above as to the novelty of Appellant's independent claims 1 and 7 are thus repeated here by reference, rather than repeating them verbatim.

In determining obviousness, the basic issue is whether applied references, alone or in any combination, suggest the claimed invention as a solution to the specific problem solved. When the prior art itself does not suggest or render obvious the claimed solution to that problem, the art involved does not satisfy the criteria of 35 USC § 103 for precluding patentability. Obviousness cannot be established by combining the teachings of the prior art to produce the claimed invention, absent some teaching, suggestion, or incentive supporting the combination. Carela v. Starlight Archery, 231 USPQ 644 (Fed. Cir. 1986).

When features of prior art references are combined to establish obviousness, the mere possibility of such a combination does not render the result of that combination obvious absent a logical reason of record which justifies the combination. In re Regel, 526 F.2d 1399, 188 USPQ 136 (CCPA 1975). Instead, references may only be modified when (1) the prior art would have suggested to those of ordinary skill in the art that they should make the claimed composition or perform the claimed process, and (2) that those of ordinary skill in the art would have a reasonable expectation of success of making the claimed composition or performing the claimed process. In re Vaeck, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991).

Thus, there must be a reason apparent to one skilled in the art at the time of the invention for applying the teaching at hand, or the use of the teaching as evidence of obviousness entails prohibited hindsight. Graham v. John Deere Co., 383 US 1, 148 USPQ 459 (1966). A key case from the CAFC amplifies this basic tenet and is quoted at length here.

"Our case law makes clear that the best defense against the subtle but powerful attraction of a hindsight-based obviousness analysis is rigorous application of the requirement for a showing of the teaching or motivation to combine prior art references. *See, e.g., C.R. Bard, Inc. v. M3 Sys., Inc.*, 157 F.3d 1340, 1352, 48 USPQ2d 1225, 1232 (Fed. Cir. 1998) (describing "teaching or suggestion or motivation [to combine]" as an "essential evidentiary component of an obviousness holding"); *In re Rouffet*, 149 F.3d 1350, 1359, 47 USPQ2d 1453, 1459 (Fed. Cir. 1998) ("the Board must identify specifically . . . the reasons one of ordinary skill in the art would have been motivated to select the

references and combine them"); *In re Fritch*, 972 F.2d 1260, 1265, 23 USPQ2d 1780, 1783 (Fed. Cir. 1992) (examiner can satisfy burden of obviousness in light of combination "only by showing some objective teaching [leading to the combination]"); *In re Fine*, 837 F.2d 1071, 1075, 5 USPQ2d 1596, 1600 (Fed. Cir. 1988) (evidence of teaching or suggestion "essential" to avoid hindsight); *Ashland Oil, Inc. v. Delta Resins & Refractories, Inc.*, 776 F.2d 281, 297, 227 USPQ 657, 667 (Fed. Cir. 1985) (district court's conclusion of obviousness was error when it "did not elucidate any factual teachings, suggestions or incentives from this prior art that showed the propriety of combination"). *See also Graham*, 383 U.S. at 18, 148 USPQ at 467 ("strict observance" of factual predicates to obviousness conclusion required). Combining prior art references without evidence of such a suggestion, teaching, or motivation simply takes the inventor's disclosure as a blueprint for piecing together the prior art to defeat patentability--the essence of hindsight. *See, e.g., Interconnect Planning Corp. v. Feil*, 774 F.2d 1132, 1138, 227 USPQ 543, 547 (Fed. Cir. 1985) ("The invention must be viewed not with the blueprint drawn by the inventor, but in the state of the art that existed at the time."). In this case, the Board fell into the hindsight trap. We have noted that evidence of a suggestion, teaching, or motivation to combine may flow from the prior art references themselves, the knowledge of one of ordinary skill in the art, or, in some cases, from the nature of the problem to be solved, *see Pro-Mold & Tool Co. v. Great Lakes Plastics, Inc.*, 75 F.3d 1568, 1573, 37 USPQ2d 1626, 1630 (Fed. Cir. 1996), *Para-Ordinance Mfg. v. SGS Imports Intern., Inc.*, 73 F.3d 1085, 1088, 37 USPQ2d 1237, 1240 (Fed. Cir. 1995), although "the suggestion more often comes from the teachings of the pertinent references," *Rouffet*, 149 F.3d at 1355, 47 USPQ2d at 1456. The range of sources available, however, does not diminish the requirement for actual evidence. That is, the showing must be clear and particular. *See, e.g., C.R. Bard*, 157 F.3d at 1352, 48 USPQ2d at 1232. Broad conclusory statements regarding the teaching of multiple references, standing alone, are not "evidence." *E.g., McElmurry v. Arkansas Power & Light Co.*, 995 F.2d 1576, 1578, 27 USPQ2d 1129, 1131 (Fed. Cir. 1993) ("Mere denials and conclusory statements, however, are not sufficient to establish a genuine issue of material fact."); *In re Sichert*, 566 F.2d 1154, 1164, 196 USPQ 209, 217 (CCPA 1977) ("The examiner's conclusory statement that the specification does not teach the best mode of using the invention is unaccompanied by evidence or reasoning and is entirely inadequate to support the rejection."). In addition to demonstrating the propriety of an obviousness analysis, particular factual findings regarding the suggestion, teaching, or motivation to combine serve a number of important purposes, including: (1) clear explication of the position adopted by the Examiner and the Board; (2) identification of the factual disputes, if any, between the applicant and the Board; and (3) facilitation of review on appeal. Here, however, the Board did not make particular findings regarding the locus of the suggestion, teaching, or motivation to combine the prior art references."

In re Dembiczak, 50 USPQ2d 1614, 1617 (Fed. Cir. 1999).

Based on the foregoing case law, and according to MPEP 2143, three basic criteria must be met to establish a *prima facie* case of obviousness. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, not in applicant's disclosure, as such would be indicative of impermissible hindsight.

Thus, to establish a *prima facie* case of obviousness, the Examiner is required to cite a combination of prior art that not only teaches each and every element of the rejected claims, but also is required to cite substantial evidence to support the conclusion that one of ordinary skill in the art would be motivated to combine or modify the references as suggested, as well as substantial evidence that one of ordinary skill in the art would have a reasonable expectation of success in making the cited combination or modification.

It is respectfully submitted that the Examiner has not met the initial burden of making a proper *prima facie* showing of obviousness. More particularly, as noted above in regard to the section 102 rejection of claims 1-3, 7-9 and 13-18, Gordon does not disclose, teach or suggest an apparatus having a substantially convex cross-sectional shape that is thicker in the center region and thinner toward the edges, and a material and constitution for maintaining the convex shape under the weight of the mattress and a person. Indeed, Gordon's disclosure is wholly devoid of any teaching regarding suitable materials and/or methods for maintaining a convex cross-sectional shape, particularly under the weight and pressure of the mattress and a person. See Declaration of Jon D. Pearson and Supplemental Declaration of Jon D. Pearson. It is noted also that the Examiner has not provided any evidence whatsoever that contradicts or disproves the results of Appellant's laboratory experiments. Thus, the final rejection is not supported by substantial evidence.

Further, Reeder *et al.* does not cure the deficiencies of Gordon, as Reeder also does not disclose, teach or suggest a mattress support having a substantially convex cross-sectional shape that is thicker in the center region and gradually thinner towards the

edges, and a material and constitution for maintaining the convex shape under the weight of the mattress and a person. Therefore, even if one were to combine Gordon with Reeder *et al.*, the resulting combination would not produce the invention of Appellant's claims.

Furthermore, it is respectfully submitted that the Examiner also has not made a "clear and particular" showing of any teaching or motivation to combine the references as suggested. The Examiner states that a person of ordinary skill in the art would have been motivated to modify Gordon according to Reeder "to customize desired areas of support." Final Office Action at page 8, lines 15-16. However, this is not the problem that is solved by Appellant's invention. Indeed, Appellant expressly distinguishes the invention from lumbar supports and supports for other specific areas of the body, as the invention is specifically intended for adjusting the firmness and support of the entire sleeping area of a mattress, not merely a specific region of the mattress corresponding to a portion of the body, such as the head or spine. Specification at page 5, line 25 to page 6, line 2; Supplemental Declaration of Jon D. Pearson. Thus, Reeder *et al.* teaches a solution to a different problem.

Moreover, there is no teaching or suggestion anywhere in the prior art of record that an inflatable mattress support should have a substantially convex cross-sectional shape that is thicker in the center region and gradually thinner towards the edges, and a material and constitution for maintaining the convex shape under the weight of the mattress and a person.

Appellant therefore believes that the Examiner is using impermissible hindsight in his analysis, in the same vein as the CAFC comments on "hindsight." The only motivation for any combination of the cited references is found in Appellant's application. The combination suggested by the Examiner is made without any reasonable teaching or motivation in the prior art, and moreover does not produce Appellant's invention in any case. That is, there is no teaching or suggestion in the prior art to combine the cited references, and even making the combination suggested by the Examiner does not produce all of the claimed features recited in Appellant's claims.

Therefore, Appellant has shown that the combination of Gordon and Reeder *et al.* does not teach or suggest a mattress support having a substantially convex cross-sectional

shape that is thicker in the center region and gradually thinner towards the edges, and a material and constitution for maintaining the convex shape under the weight of the mattress and a person.

For the foregoing reasons, Appellant respectfully requests that this Board reverse the rejection of claims 4-5 and 10-11 as being unpatentable over Gordon (U.S. Pat. No. 6,665,898) in view of Reeder *et al.* (U.S. Pat. No. 6,460,209).

(7.3)
**The Combination of Gordon and Pepe Does Not Teach
or Suggest Each And Every Element of Appellant's
Claims 1 or 7**

Claims 6 and 12 stand finally rejected under 35 U.S.C. 103(a) as being unpatentable over Gordon (U.S. Pat. No. 6,665,898) in view of Pepe (U.S. Pat. No. 5,787,531). Appellant respectfully requests that this Board reverse the rejection.

More particularly, the Examiner maintains that Gordon discloses all of the features of the claimed invention, with the exception of separate inflatable chambers.

Appellant respectfully disagrees, and maintains that the claims are patentable over Gordon and Pepe, individually and in combination, for the reasons given above with respect to the section 102 rejection of claims 1-3 and 7-9, from which claims 6 and 12 depend. The arguments above as to the novelty of claims 1 and 7 and the non-obviousness of claims 1 and 7 are thus repeated here by reference, rather than repeating them verbatim.

It is respectfully submitted that the Examiner has not met the initial burden of making a proper *prima facie* showing of obviousness. More particularly, as noted above in regard to the section 102 rejection of claims 1-3, 7-9 and 13-18, Gordon does not disclose, teach or suggest an apparatus having a substantially convex cross-sectional shape that is thicker in the center region and thinner toward the edges, and a material and constitution for maintaining the convex shape under the weight of the mattress and a person. Indeed, Gordon's disclosure is wholly devoid of any teaching regarding suitable materials and/or methods for maintaining a convex cross-sectional shape, particularly under the weight and pressure of the mattress and a person. See Declaration of Jon D.

Pearson and Supplemental Declaration of Jon D. Pearson. It is noted also that the Examiner has not provided any evidence whatsoever that contradicts or disproves the results of Appellant's laboratory experiments. Thus, the final rejection is not supported by substantial evidence.

Further, Pepe does not cure the deficiencies of Gordon, as Pepe also does not disclose, teach or suggest a mattress support having a substantially convex cross-sectional shape that is thicker in the center region and gradually thinner towards the edges, and a material and constitution for maintaining the convex shape under the weight of the mattress and a person. Therefore, even if one were to combine Gordon with Pepe, the resulting combination would not produce the invention of Appellant's claims.

Furthermore, it is respectfully submitted that the Examiner also has not made a "clear and particular" showing of any teaching or motivation to combine the references as suggested. The Examiner states that a person of ordinary skill in the art would have been motivated to modify Gordon according to Pepe "achieve constant pressure distribution over the length of the mattress (col. 2, lines 61 through 65)." Final Office Action at page 9, lines 12-13. However, this is not the problem that is solved by Appellant's invention. Indeed, merely achieving constant pressure distribution over the length of the mattress is insufficient to produce and maintain the claimed convex shape under the weight of the mattress and a person.

Moreover, there is no teaching or suggestion anywhere in the prior art of record that an inflatable mattress support should have a substantially convex cross-sectional shape that is thicker in the center region and gradually thinner towards the edges, and a material and constitution for maintaining the convex shape under the weight of the mattress and a person.

Appellant therefore believes that the Examiner is using impermissible hindsight in his analysis, in the same vein as the CAFC comments on "hindsight." The only motivation for any combination of the cited references is found in Appellant's application. The combination suggested by the Examiner is made without any reasonable teaching or motivation in the prior art, and moreover does not produce Appellant's invention in any case. That is, there is no teaching or suggestion in the prior art to

combine the cited references, and even making the combination suggested by the Examiner does not produce all of the claimed features recited in Appellant's claims.

Therefore, Appellant has shown that the combination of Gordon and Pepe does not teach or suggest a mattress support having a substantially convex cross-sectional shape that is thicker in the center region and gradually thinner towards the edges, and a material and constitution for maintaining the convex shape under the weight of the mattress and a person.

For the foregoing reasons, Appellant respectfully requests that this Board reverse the rejection of claims 4-5 and 10-11 as being unpatentable over Gordon (U.S. Pat. No. 6,665,898) in view of Pepe (U.S. Pat. No. 5,787,531).

8. CONCLUSION

The Examiner has not provided any substantial evidence to refute the declaration testimony and test data of record. Therefore, the final rejection is not supported by substantial evidence. Appellant, on the other hand, has provided ample evidence showing that the cited prior art fails to disclose multiple limitations of Appellant's independent claims, and thus that the claims are distinguished over the prior art. Moreover, Appellants have performed various laboratory tests, which clearly demonstrate that the apparatus of the prior art does not meet the limitations of Appellant's independent claims. Indeed, the entirety of the evidence of record supports the patentability of Appellant's claims.

In conclusion, Appellant respectfully requests that this Board reverse each of the grounds of rejection maintained by the Examiner.

Respectfully submitted,

Jon D. Pearson

Dated: 7/18/2005

By: Thomas T. Aquilla
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(A1)

CLAIMS APPENDIX

Claims on Appeal

1. (Original) Apparatus for adjusting firmness, support, or sag of a mattress, comprising:
 - a) a substantially convex cross-sectional shape that is thicker in the center region and gradually thinner toward the edges;
 - b) a material and constitution for maintaining the convex shape under the weight of the mattress and a person; and
 - c) a set of dimensions large enough to adjust firmness, support, or sag for the majority of an area of the mattress used by the person.
2. (Original) The apparatus of claim 1, wherein the apparatus comprises a substantially oval, elliptical, rectangular, diamond, rounded rectangular, rounded diamond, or rounded shape.
3. (Original) The apparatus of claim 1, wherein the apparatus is inflatable to achieve adjustability to the level of firmness, support, or sag.
4. (Original) The apparatus of claim 3, wherein baffles comprising a flexible material are attached inside the apparatus to both the top and the bottom thereof, preventing the further expansion of the apparatus at those points, with shorter pieces of said flexible material located toward the edges to keep the edges thinner, and with longer pieces of said flexible material located in the center areas to allow the center areas to expand thicker when inflated.
5. (Original) The apparatus of claim 3, wherein a plurality of hollow chambers inside the apparatus are attached to both the top and the bottom thereof, preventing the further expansion of the apparatus at those points, with shorter hollow chambers comprising a flexible material located toward the edges to keep the edges thinner, and with longer hollow chambers

comprising a flexible material located in the center areas to allow the center areas to expand thicker when inflated.

6. (Original) The apparatus of claim 3, wherein separate inflatable chambers of varying diameters are connected in such a way to form the convex shape, wherein chambers having a larger diameter are arranged near a center of said apparatus, and progressively smaller diameter chambers being arranged toward the edge thereof.
7. (Original) An apparatus for adding adjustability of firmness, support, or sag to a mattress, comprising:
 - a) a plurality of inflatable chambers;
 - b) a substantially convex cross-sectional shape, after inflation, that is thicker in the center region and gradually tapered toward the edges;
 - c) an arrangement and shape of the chambers for maintaining the convex shape under the weight of the mattress and a person;
 - d) a set of dimensions large enough to adjust firmness, support, or sag for the majority of an area of the mattress used by the person; and
 - e) an adjustability of firmness, support, or sag controlled by degree of inflation of said chambers.
8. (Original) The apparatus of claim 7, wherein the plurality of chambers are inflatable by way of at least one inflation opening.
9. (Original) The apparatus of claim 7, wherein the plurality of chambers are separate, with each chamber inflatable by way of a separate inflation opening.
10. (Original) The apparatus of claim 7, wherein baffles comprising a flexible material are attached inside the apparatus to both the top and the bottom thereof, preventing the further expansion of the apparatus at those points,

with shorter pieces of said flexible material located toward the edges to keep the edges thinner, and with longer pieces of said flexible material located in the center areas to allow the center areas to expand thicker when inflated.

11. (Original) The apparatus of claim 7, wherein a plurality of hollow chambers inside the apparatus are attached to both the top and the bottom thereof, preventing the further expansion of the apparatus at those points, with shorter hollow chambers comprising a flexible material located toward the edges to keep the edges thinner, and with longer hollow chambers comprising a flexible material located in the center areas to allow the center areas to expand thicker when inflated.
12. (Original) The apparatus of claim 7, wherein separate inflatable chambers of varying diameters are connected in such a way to form the convex shape, wherein chambers having a larger diameter are arranged near a center of said apparatus, and progressively smaller diameter chambers being arranged toward the edge thereof.
13. (Original) A method of providing adjustability of firmness, support, or sag to a mattress comprising the steps of:
 - a) providing an inflatable apparatus and inflating it so that it attains a substantially convex shape;
 - b) inflating the apparatus to a desired degree for a desired level of firmness, support, or sag to the mattress;
 - c) placing the apparatus under the mattress; and
 - d) positioning the apparatus so that it supports the majority of an area of the mattress used by a person.
14. (Original) The method of claim 13, wherein the apparatus is placed between a mattress and a box spring.

15. (Original) The method of claim 13, wherein the mattress is a king-size mattress.
16. (Original) The method of claim 13, wherein the mattress is a queen-size mattress.
17. (Original) The method of claim 13, wherein the mattress is a double-size mattress.
18. (Original) The method of claim 13, wherein the mattress is a twin-size mattress.

ATTORNEY DOCKET NO. JPA-1
EXPRESS MAIL LABEL NO. EV710696797US

(A2)

EVIDENCE APPENDIX

Copies of any evidence entered and relied upon in the appeal.

Supplemental Declaration of Jon D. Pearson (attached).

**ATTORNEY DOCKET NO. JPA-1
EXPRESS MAIL LABEL NO. EV710696797US**

(A3)

RELATED PROCEEDINGS APPENDIX

**Copies of decisions rendered by a court or the Board in any proceeding identified in
the related appeals and interferences section.**

NONE



EV710696797US

TO/SB/21 (09-04)

Approved for use through 07/31/2006. OMB 0651-0031

U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

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TRANSMITTAL FORM (to be used for all correspondence after initial filing)	Application Number	10/775,634	
	Filing Date	02/10/2004	
	First Named Inventor	Jon D. Pearson	
	Art Unit	3671	
	Examiner Name	Tara L. Mayo	
Total Number of Pages in This Submission	34	Attorney Docket Number	JPA-1

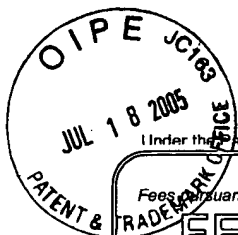
ENCLOSURES (Check all that apply)		
<input checked="" type="checkbox"/> Fee Transmittal Form <input checked="" type="checkbox"/> Fee Attached	<input type="checkbox"/> Drawing(s) <input type="checkbox"/> Licensing-related Papers	<input type="checkbox"/> After Allowance Communication to TC
<input type="checkbox"/> Amendment/Reply <input type="checkbox"/> After Final <input type="checkbox"/> Affidavits/declaration(s)	<input type="checkbox"/> Petition <input type="checkbox"/> Petition to Convert to a Provisional Application <input type="checkbox"/> Power of Attorney, Revocation <input type="checkbox"/> Change of Correspondence Address	<input checked="" type="checkbox"/> Appeal Communication to Board of Appeals and Interferences <input checked="" type="checkbox"/> Appeal Communication to TC (Appeal Notice, Brief, Reply Brief)
<input type="checkbox"/> Extension of Time Request <input type="checkbox"/> Express Abandonment Request <input type="checkbox"/> Information Disclosure Statement	<input type="checkbox"/> Terminal Disclaimer <input type="checkbox"/> Request for Refund <input type="checkbox"/> CD, Number of CD(s) _____ <input type="checkbox"/> Landscape Table on CD	<input type="checkbox"/> Proprietary Information <input type="checkbox"/> Status Letter <input checked="" type="checkbox"/> Other Enclosure(s) (please identify below): Check #1017 for \$250 Appeal Brief filing fee (small entity); and Return Mailroom Postcard, by Express Mail under Express Mail Label No. EV710696797US.
<input type="checkbox"/> Certified Copy of Priority Document(s) <input type="checkbox"/> Reply to Missing Parts/Incomplete Application <input type="checkbox"/> Reply to Missing Parts under 37 CFR 1.52 or 1.53	Remarks	

SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT			
Firm Name	AQUILLA & ASSOCIATES		
Signature			
Printed name	Thomas T. Aquilla		
Date	July 18, 2005	Reg. No.	43,473

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Signature			
Typed or printed name	Thomas T. Aquilla	Date	July 18, 2005

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Effective on 12/08/2004.
Fees pursuant to the Consolidated Appropriations Act, 2005 (H.R. 4818).**FEE TRANSMITTAL**
For FY 2005☒ Applicant claims small entity status. See 37 CFR 1.27**TOTAL AMOUNT OF PAYMENT** (\$) 250.00**Complete if Known**

Application Number	10/775,634
Filing Date	02/10/2004
First Named Inventor	Jon D. Pearson
Examiner Name	Tara L. Mayo
Art Unit	3671
Attorney Docket No.	JPA-1

METHOD OF PAYMENT (check all that apply)☒ Check ☐ Credit Card ☐ Money Order ☐ None ☐ Other (please identify): _____☐ Deposit Account Deposit Account Number: _____ Deposit Account Name: _____

For the above-identified deposit account, the Director is hereby authorized to: (check all that apply)

☐ Charge fee(s) indicated below ☐ Charge fee(s) indicated below, except for the filing fee
☐ Charge any additional fee(s) or underpayments of fee(s) under 37 CFR 1.16 and 1.17 ☐ Credit any overpayments**WARNING:** Information on this form may become public. Credit card information should not be included on this form. Provide credit card information and authorization on PTO-2038.**FEE CALCULATION****1. BASIC FILING, SEARCH, AND EXAMINATION FEES**

Application Type	FILING FEES		SEARCH FEES		EXAMINATION FEES		Fees Paid (\$)
	Fee (\$)	Small Entity Fee (\$)	Fee (\$)	Small Entity Fee (\$)	Fee (\$)	Small Entity Fee (\$)	
Utility	300	150	500	250	200	100	
Design	200	100	100	50	130	65	
Plant	200	100	300	150	160	80	
Reissue	300	150	500	250	600	300	
Provisional	200	100	0	0	0	0	

2. EXCESS CLAIM FEES**Fee Description**

	Fee (\$)	Small Entity Fee (\$)
Each claim over 20 (including Reissues)	50	25
Each independent claim over 3 (including Reissues)	200	100
Multiple dependent claims	360	180

Total Claims	Extra Claims	Fee (\$)	Fee Paid (\$)	Multiple Dependent Claims
- 20 or HP =	x	=		Fee (\$) Fee Paid (\$)

HP = highest number of total claims paid for, if greater than 20.

Indep. Claims	Extra Claims	Fee (\$)	Fee Paid (\$)
- 3 or HP =	x	=	

HP = highest number of independent claims paid for, if greater than 3.

3. APPLICATION SIZE FEE

If the specification and drawings exceed 100 sheets of paper (excluding electronically filed sequence or computer listings under 37 CFR 1.52(e)), the application size fee due is \$250 (\$125 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).

Total Sheets	Extra Sheets	Number of each additional 50 or fraction thereof	Fee (\$)	Fee Paid (\$)
- 100 =	/ 50 =	(round up to a whole number) x	=	

4. OTHER FEE(S)

Non-English Specification, \$130 fee (no small entity discount)

Other (e.g., late filing surcharge): Appeal Brief filing fee (small entity)

Fees Paid (\$)

\$250.00

SUBMITTED BY

Signature	<i>Thomas T. Aquilla</i>	Registration No. (Attorney/Agent) 43,473	Telephone 607-227-4428
Name (Print/Type)	THOMAS T. AQUILLA		Date 07/18/05

This collection of information is required by 37 CFR 1.136. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 30 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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